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MENTS, NO. 17, JULY - SEPTEMBER 1974

Stuart G. Hibben

Informatics, Incorporated

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This is the Soviet Laser Bibliography for the third quarter of 1974 and is No. 17 in the series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; computer technology; holography; laser-induced chemical reactions; instrumentation and measurements; beam-target interaction; and plasma generation and diagnostics.		

BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS

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Introduction

This bibliography has been compiled by the staff of Informatics Inc. in response to a continuing contractual assignment to monitor current Soviet-bloc developments in the quantum electronics field. Of all material reviewed, the major yield has been from the approximately 30 periodicals which are known to report the most advanced and interesting findings in Soviet laser technology.

The period covered is the third quarter of 1974, and includes all significant laser-related articles received by us during that interval. The structure and selection criteria are basically those used in the preceding reports.

For convenience we have abbreviated frequently cited source names; a source abbreviation list and an author index are included. Unless indicated by a parenthesized (RZh, KL) notation, all cited sources are available at Informatics Inc. The numbers in parentheses following the authors' names in the text refer to the Cumulative Affiliations List which includes all author affiliations from 1969 to the present.

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IV. SOURCE ABBREVIATIONS

APP	-	Acta physica polonica
BAPS	-	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
DAN Arm	-	Akademiya nauk Armyanskoy SSR. Doklady
DAN SSSR	-	Akademiya nauk SSSR. Doklady
DBAN	-	Bulgarska akademiya na naukite. Doklady
EOM	-	Elektronnaya obrabotka materialov
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	-	Fizika goreniya i vzryva
FiKhOM	-	Fizika i khimiya obrabotki materialov
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
GiK	-	Geodeziya i kartografiya
IAN Arm	-	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	-	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Fiz	-	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN TK	-	Akademiya nauk SSSR. Izvestiya. Tekhnicheskaya kibernetika
IAN Uz	-	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IT	-	Izmeritel'naya tekhnika
IVUZ Fiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Geod	-	Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka

IVUZ Gorn	-	Izvestiya vysshikh uchebnykh zavedeniy. Gornyy zhurnal
IVUZ Priboro	-	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	-	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	-	Kvantovaya elektronika
KiK	-	Kinetika i kataliz
KL	-	Knizhnaya letopis'
KLDV	-	Knizhnaya letopis'. Dopolnitel'nyy vypusk
Kristal	-	Kristallografiya
KSpF	-	Kratkiye soobshcheniya po fizike
LC	-	Received at Library of Congress
MZhiG	-	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NM	-	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	-	Optika i spektroskopiya
OMP	-	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	-	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PF	-	Postepy fizyki
PTE	-	Pribory i tekhnika eksperimenta
RiE	-	Radiotekhnika i elektronika
RZhElektr	-	Referativnyy zhurnal. Elektronika i yeye primeneniye
RZhF	-	Referativnyy zhurnal. Fizika
RZhFoto	-	Referativnyy zhurnal. Fotokinotekhnika
RZhGeod	-	Referativnyy zhurnal. Geodeziya i aeros'yemka

RZhGeofiz	-	Referativnyy zhurnal. Geofizika
RZhKh	-	Referativnyy zhurnal. Khimiya
RZhMekh	-	Referativnyy zhurnal. Mekhanika
RZhMetal	-	Referativnyy zhurnal. Metallurgiya
RZhMetrolog	-	Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZhRadiot	-	Referativnyy zhurnal. Radiotekhnika
Sb1	-	Sbornik. Opticheskiye i kineticheskiye efekty v sil'nom elektromagnitnom pole. Kishinev, Shtiintsa, 1974.
Sb2	-	Analiz sovremennykh zadach v tochnykh naukakh. Moskva, 1973.
Sb3	-	Prikladnaya spektroskopiya. Minsk, 1974.
Sb4	-	Radiotekhnika, no. 28, 1974.
Sb5	-	Aerofizicheskiye issledovaniya, no. 2, Novosibirsk, 1973.
Sb6	-	11th International Conference on Phenomena in Ionized Gases, Prague, 1973. Prague, s. a.
Sb7	-	Vsesoyuznyy simpozium po rasprostraneniya submillimetrovskikh i millimetrovskikh voln v atmosfere Zemli i planet, 1974. Tezisy dokladov. Moskva-Gor'kiy, 1974.
Sb8	-	Issledovaniya po nelineynom optike i spektroskopii, no. 1, Saratov, Saratovskiy universitet, 1973.
Sb9	-	Issledovaniye sistem, no. 2, Vladivostok, 1973.
Sb10	-	Vsesoyuznaya shkola po golografii, 1973. 5th. Materialy. Leningrad, 1973.
Sb11	-	Metody Monte-Karlo v vychislitel'noy matematiki i fiziki. Novosibirsk, 1974.
Sb12	-	Gidravlika i gidrotekhnika, no. 18, 1974.
Sb13	-	Inzhenerno-stroitel'skiye izyskaniya, no. 3(32), Moskva, Stroyizdat, 1973.

Sb14	-	Itogi nauki i tekhniki. Radiotekhnika, v. 6, VINITI, Moskva, 1974.
Sb15	-	Generatory plazmennyykh struy i sil'no-tochnyye dugi. Leningrad, Izd-vo Nauka, 1973.
Sb16	-	Problemy gidroenergii i vodnogo khozyaystva, no. 11, Alma-Ata, Nauka, 1974.
Sb17	-	Novyye elektronnyye pribory i ustroystva. Moskva, 1974.
Sb18	-	Prikladnaya geofizika, no. 72, 1973.
Sb19	-	Teplo- i massoobmen v khimicheskoy tekhnologii, no. 1, Kazan', 1973.
Sb20	-	Aerodinamika, no. 8, part 1, Kiyev, 1973.
Sb21	-	Sbornik po fizike elektronnykh i atomnykh stolknoveniy. Leningrad, 1973.
Sb22	-	Fizika yavleniya pri bombardirovke tverdogo tela atomnymi chastitsami. Book 1. Tashkent, Izd-vo Fan, 1973.
TiEKh	-	Teoreticheskaya i eksperimental'naya khimiya
TKiT	-	Tekhnika kino i televideniya
Tr1	-	Moskovskiy energeticheskiy institut. Trudy, no. 180, 1974.
Tr2	-	Leningradskiy elektrotekhnicheskiiy institut. Izvestiya, no. 140, 1974.
Tr3	-	VNIi fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy. Trudy, no. 162, 1974.
Tr4	-	Fiziko-tekhnicheskiiy institut nizkikh temperatur AN UkrSSR. Trudy, no. 28, 1973.
Tr5	-	Moskovskiy energeticheskiy institut. Trudy, no. 171, part 2, 1973(1974).
Tr6	-	Moskovskiy energeticheskiy institut. Trudy, no. 181, 1974.
Tr7	-	Leningradskiy elektrotekhnicheskiiy institut. Izvestiya, no. 135, 1974.
Tr8	-	Simpozium po mekhanike sploshnoy sredy i rodstvennykh problem analiza, 1971. Trudy, v. 1, Tbilisi, Metsniyereba, 1973.

Tr9	-	Leningradskiy elektrotekhnicheskii institut. Izvestiya, no. 145, 1974.
Tr10	-	Moskovskiy khimiko-tekhnologicheskii institut. Trudy, no. 76, 1973.
Tr11	-	Moskovskoye vyssheye tekhnicheskoye uchilishche. Trudy, no. 174, 1974.
Tr12	-	Trudy metrologicheskikh institutov SSSR. Khar'kovskiy NII metrologii, no. 10, 1973.
TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UFZh	-	Ukrainskiy fizicheskii zhurnal
VLU	-	Leningradskiy universitet. Vestnik. Fizika, Khimiya
VMU	-	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya
ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	-	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	-	Zhurnal fizicheskoy khimii
ZhNiPFiK	-	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhPMTF	-	Zhurnal prikladnoy mekhaniki i teoreticheskoy fiziki
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki
ZL	-	Zavodskaya laboratoriya

V. CUMULATIVE AFFILIATIONS LIST

NS. Non-Soviet

0. Affiliation not given
1. Physics Institute im. Lebedev, AN SSSR, Moscow (Fizicheskiy institut im. Lebedeva AN SSSR).
2. Moscow State University (Moskovskiy gosudarstvennyy universitet).
3. Institute of Physics, AN BSSR, Minsk (Institut fiziki, AN BSSR).
4. Leningrad Physical-technical Institute im. Ioffe (Fiziko-tekhnicheskiy institut im. Ioffe).
5. Institute of Physics, AN UkrSSR, Kiev (Institut fiziki, AN UkrSSR).
6. Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov, AN UkrSSR).
7. State Optical Institute im. Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut im. Vavilova).
8. Radiophysics Scientific Research Institute at Gorkiy State University (Gor'kovskiy nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom gos. universitete).
9. Institute of Radiophysics and Electronics, Siberian Branch AN SSSR, Novosibirsk (Institut radiofiziki i elektroniki, Sibirskoye otdeleniye AN SSSR).
10. Institute of Semiconductor Physics of the Siberian Branch, AN SSSR, Novosibirsk (Institut fiziki poluprovodnikov, Sib. otdel AN SSSR).
11. Kazan' State University (Kazanskii gos. universitet).
12. Leningrad State University (Leningradskiy gos. universitet).
13. Institute of Crystallography, AN SSSR, Moscow (Institut kristallografiya, AN SSSR).
14. University of Friendship Among Nations im. Lumumba, Moscow (Universitet druzhby narodov im. Lumumby).
15. Institute of Radio Engineering and Electronics, AN SSSR, Moscow (Institut radiotekhniki i elektroniki, AN SSSR).
16. Moscow Engineering Physics Institute (Moskovskiy inzhenerno-fizicheskiy institut).
17. Institute of Mechanical Problems, AN SSSR, Moscow (Institut problem mekhaniki, AN SSSR).
18. Institute of General and Inorganic Chemistry im. Kurnakov, AN SSSR, Moscow (Institut obshchey i neorganicheskoy khimii im. Kurnakova, AN SSSR).
19. Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut).
20. All Union Scientific Research Institute of Physicotechnical and Electronic Measurements, Moscow (Vsesoyuznyy nauchno-issled. institut fiziko-tekhnicheskikh i elektronnykh izmereniy).
21. Acoustics Institute, AN SSSR, Moscow (Akusticheskiy institut, AN SSSR).
22. Institute of metallurgy im. Baykov, Moscow (Institut metallurgii im. Baykova).
23. Institute of Atomic Energy im. Kurchatov, Moscow (Institut atomnoy energii im. Kurchatova).
24. Moscow Higher Technical College im. Bauman (Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana).
25. Moscow Scientific Research Institute of Instrument Manufacture (Moskovskiy nauchno-issled. institut instrumental'nogo proizvodstva).
26. Central Scientific Research Institute of the Ministry of Defense, Moscow (Tsentral'nyy nauchno-issled. institut Ministerstva oborony).
27. All Union Scientific Research Institute of Textile and Light Machinery, Moscow (VNII tekstil'nogo i legkogo mashinostroyeniya).
28. Leningrad Opticomechanical Society (Leningradskoye optiko-mekhanicheskoye obshchestvo).
29. Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut).
30. Leningrad Institute of Precision Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki).
31. Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR).

32. Physics Scientific Research Institute at Leningrad State University (Fizicheskii NII pri Leningradskom gos. universitete).
33. Institute of Silicate Chemistry im. Grebanshchikov, AN SSSR, Leningrad (Institut khimii silikatov im. Grebanshchikova AN SSSR).
34. Khar'kov State University (Khar'kovskiy gos. universitet).
35. Khar'kov Institute of Radioelectronics (Khar'kovskiy institut radioelektroniki).
36. Physicotechnical Institute of Low Temperatures, AN UkrSSR, Khar'kov (Fiziko-tekhnicheskii institut nizkikh temperatur AN UkrSSR).
37. Yerevan State University (Yerevanskiy gos. universitet).
38. Kazan' Physicotechnical Institute (Kazanskiy fiziko-tekhnicheskii institut).
39. Institute of Cybernetics, AN GruzSSR (Institut kibernetiki AN GruzSSR).
40. Tbilisi State University (Tbiliskiy gos. universitet).
41. Rostov-on-Don State University (Rostovskiy-na-Donu gos. universitet).
42. Ural Polytechnic Institute im. Kirov, Sverdlovsk (Ural'skiy politekhnicheskii institut im. Kirova).
43. Ural State University, Sverdlovsk (Ural'skiy gos. universitet).
44. Institute of Applied Physics, AN MSSR, Kishinev (Institut prikladnoy fiziki AN MSSR).
45. Saratov State University (Saratovskiy gos. universitet).
46. Novosibirsk State University (Novosibirskiy gos. universitet).
47. Siberian Physicotechnical Institute im. Kuznetsov, Tomsk (Sibirskiy fiziko-tekhnicheskii institut im. Kuznetsova).
48. Tomsk Institute of Radio Engineering and Electronics (Tomskiy institut radiotekhniki i elektroniki).
49. Vilnius State University (Vil'nyusskiy gos. universitet).
50. Institute of Semiconductor Physics, AN LitSSR, Vilnius (Institut fiziki poluprovodnikov, AN LitSSR).
51. Kiev State University (Kiyevskiy gos. universitet).
52. Joint Institute of Nuclear Research, Dubna (Ob'edinnennyy institut yadernykh issledovaniy).
53. Chernovtsy State University (Chernovitskiy gos. universitet).
54. Taganrog Radio Engineering Institute (Taganrozhskiy radiotekhnicheskii institut).
55. Physicotechnical Institute, AN TurkSSR, Ashkhabad (Fiziko-tekhnicheskii institut AN TurkSSR).
56. Nezhin State University (Nezhinskiy gos. universitet).
57. All Union Machine Construction Institute, Kramatorsk (Vsesoyuznyy mashinostroitel'nyy institut).
58. Kemerova State Pedagogical Institute (Kemerovskiy gos. pedagogicheskii institut).
59. Institute of Physics Research, AN ArmSSR (Institut fizicheskikh issledovaniy AN ArmSSR).
60. Institute of Physics, AN AzSSR (Institut fiziki AN AzSSR).
61. Institute of Physics and Astronomy, AN EstSSR (Institut fiziki i astronomii AN EstSSR).
62. Institute of Geophysics, AN GruzSSR (Institut geofiziki AN GruzSSR).
63. Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR).
64. Institute of Atmospheric Physics, AN SSSR (Institut fiziki atmosfery AN SSSR).
65. Institute of Problems of Physics, AN SSSR (Institut fizicheskikh problem AN SSSR).
66. Institute of Solid State Physics, AN SSSR (Institut fiziki tverdogo tela AN SSSR).
67. Institute of Physics of Chemistry, AN SSSR (Institut khimicheskoy fiziki AN SSSR).
68. Institute of Space Research, AN SSSR (Institut kosmicheskikh issledovaniy AN SSSR).
69. Institute of Oceanography, AN SSSR (Institut okeanologii AN SSSR).
70. Institute of Organic and Physical Chemistry, AN SSSR (Institut organicheskoy i fizicheskoy khimii AN SSSR).

71. Institute of Applied Mathematics, AN SSSR (Institut prikladnoy matematiki AN SSSR).
72. Institute of Spectroscopy, AN SSSR (Institut spektroskopii AN SSSR).
73. Institute of Theoretical Physics im. Landau, AN SSSR (Institut teoreticheskoy fiziki im. Landau AN SSSR).
74. Institute of High Temperatures, AN SSSR (Institut vysokikh temperatur AN SSSR).
75. Institute of Automation and Electronic Measurements, Siberian Branch AN SSSR (Institut avtomaticheskoy elektrometrii SOAN).
76. Institute of Hydrodynamics, Siberian Branch AN SSSR (Institut gidrodinamiki SOAN).
77. Institute of Inorganic Chemistry, Siberian Branch AN SSSR (Institut neorganicheskoy khimii SOAN).
78. Institute of Atmospheric Optics, Siberian Branch AN SSSR (Institut optiki atmosfery SOAN).
79. Institute of Nuclear Physics, Siberian Branch AN SSSR (Institut yadernoy fiziki SOAN).
80. Computer Center, Siberian Branch AN SSSR (Vychislitel'nyy tsentr SOAN).
81. Physicomechanical Institute, AN UkrSSR (Fiziko-mekhanicheskiy institut AN UkrSSR).
82. Physicotechnical Institute, AN UkrSSR (Fiziko-tekhnicheskiy institut AN UkrSSR).
83. Institute of Problems in Material Studies, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR).
84. Institute of Radiophysics and Electronics, AN UkrSSR (Institut radiofiziki i elektroniki AN UkrSSR).
85. Institute of Nuclear Physics, AN UzSSR (Institut yadernoy fiziki AN UzSSR).
86. Azerbaydzhan State University (Azerbaydzhanskiy gos. universitet).
87. Belorussian State University (Belorusskiy gos. universitet).
88. Dagestan State University (Dagestanskiy gos. universitet).
89. Donetsk State University (Donetskiy gos. universitet).
90. Electrotechnical Institute of Communications (Elektrotekhnicheskiy institut svyazi).
91. Power Institute im. Krzhizhanovskiy (Energeticheskiy institut im. Krzhizhanovskogo).
92. Physicochemical Institute im. Karpov (Fiziko-khimicheskiy institut im. Karpova).
93. Gor'kiy Physicotechnical Research Institute at Gor'kiy State University (Gor'kovskiy issledovatel'skiy fiziko-tekhnicheskiy institut pri Gor'kovskom gos. universitete).
94. Gor'kiy State University (Gor'kovskiy gos. universitet).
95. State Scientific Research and Planning Institute of the Rare Metals Industry (GIREDMET, Gos. NI proyektnyy institut redkometallicheskoy promyshlennosti).
96. State Scientific Research Institute of Photochemical Planning (GOSNIKHIMFOTOPROYEKT).
97. Georgian Polytechnical Institute (Gruzinskiy politekhnicheskiy institut).
98. Institute of Nuclear Physics at Moscow State University (Institut yadernoy fiziki pri Moskovskom gos. universitete).
99. Institute of Mechanics and Physics, Saratov (Institut mekhaniki i fiziki).
100. Institute of Oncology im. Petrov (Institut onkologii im. Petrova).
101. Ivanovo State Medical Institute (Ivanovskiy gos. meditsinskiy institut).
102. Ivanovo Chemicotechnological Institute (Ivanovskiy khimiko-tekhnologicheskiy institut).
103. Ivanovo Pedagogical Institute (Ivanovskiy pedagogicheskiy institut).
104. Kaunas Polytechnic Institute (Kaunasskiy politekhnicheskiy institut).
105. Kazan' Civil Engineering Institute (Kazanskiy inzhenernostroitel'skiy institut).
106. Kiev Polytechnic Institute (Kiyevskiy politekhnicheskiy institut).
107. Khar'kov State Scientific Research Institute of Metrology (Khar'kovskiy gos. NI metrologii).
108. Khar'kov Polytechnic Institute (Khar'kovskiy politekhnicheskiy institut).
109. Latvian State University (Latviyskiy gos. universitet).

110. Leningrad Electrotechnical Institute (Leningradskiy elektrotekhnicheskiy institut).
111. Leningrad Mining Institute (Leningradskiy gornyy institut).
112. Leningrad Institute of Soviet Trade (Leningradskiy institut Sovetskoy trgovli).
113. Leningrad Mechanical Institute (Leningradskiy mekhanicheskiy institut).
114. L'vov State University (L'vovskiy gos. universitet).
115. L'vov Polytechnic Institute (L'vovskiy politekhnicheskiy institut).
116. Moscow Aviation Institute (Moskovskiy aviatsionnyy institut).
117. Moscow Mining Institute (Moskovskiy gornyy institut).
118. Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut).
119. Moscow Institute of Electronic Engineering (Moskovskiy institut elektronnoy tekhniki).
120. Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography (Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii).
121. Moscow Institute of Chemical Machinery (Moskovskiy institut khimicheskogo mashinostroyeniya).
122. Scientific Research Institute of Physicochemistry im. Karpov (NI fiziko-khimicheskiy institut im. Karpova).
123. Novosibirsk Institute of Automation and Electrometallurgy (Novosibirskiy institut avtomatiki i elektrometallurgii).
124. Odessa Scientific Research Institute of Eye Diseases and Tissue Therapy (Odesskiy NII glaznykh bolezney i tkanevoy terapii).
125. Odessa Technological Institute of Refrigeration Industry (Odesskiy tekhnologicheskii institut kholodil'noy promyshlennosti).
126. Omsk Polytechnic Institute (Omskiy politekhnicheskiy institut).
127. Rostov Civil Engineering Institute (Rostovskiy inzhenerno-stroitel'nyy institut).
128. Ryazan' Radiotechnical Institute (Ryazanskii radiotekhnicheskiy institut).
129. Siberian State Scientific Research Institute of Metrology (Sibirskiy gos. NII metrologii).
130. Tadzhik State University (Tadzhikskiy gos. universitet).
131. Tartu State University (Tartusskiy gos. universitet).
132. Tomsk State University (Tomskiy gos. universitet).
133. Central Aerohydrodynamic Institute im. Zhukovskiy (Tsentral'nyy aerogidrodinamicheskiy institut im. Zhukovskogo).
134. Central Aerological Observatory (Tsentral'naya aerologicheskaya observatoriya).
135. Central Scientific Research Institute of Communications (Tsentral'nyy NII svyazi).
136. Uzhgorod State University (Uzhgorodskiy gos. universitet).
137. Voronezh State University (Voronezhskiy gos. universitet).
138. Voronezh Polytechnic Institute (Voronezhskiy politekhnicheskiy institut).
139. All Union Electrotechnical Institute (Vsesoyuznyy elektrotekhnicheskiy institut).
140. All Union Scientific Research Institute of Physicotechnical and Radiotechnical Measurements (VNII fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy, VNIFTRI).
141. All Union Scientific Research Institute of Opticophysical Measurements (VNII optiko-fizicheskikh izmereniy).
142. All Union Scientific Research Institute for Synthesis of Mineral Ore (VNII sinteza mineral'nogo syr'ya).
143. All Union Scientific Research Institute of Synthetic Rubber (VNII sinteticheskogo kauchuka).
144. All Union Scientific Research Institute of Television and Radio Broadcasting (VNII televideniya i radioveshchaniya).
145. All Union Correspondence Electrotechnical Institute of Communications (Vsesoyuznyy zaочnyy elektrotekhnicheskiy institut svyazi).
146. Yerevan Physics Institute (Yerevanskiy fizicheskiy institut).

147. Moscow Highway Institute (Moskovskiy avtodorozhnyy institut, MADI).
148. Institute of Terrestrial Magnetism, the Ionosphere and Radiowave Propagation, AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR, IZMIRAN).
149. Leningrad Shipbuilding Institute (Leningradskiy korablestroitel'nyy institut).
150. Dnepropetrovsk State University (Dnepropetrovskiy gos universitet).
151. Kishinev State University (Kishinevskiy gos universitet).
152. Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov, MISI).
153. Kiev Civil Engineering Institute (Kiyevskiy inzhenerno-stroitel'skiy institut, KISI).
154. Marine Hydrophysical Institute, AN UkrSSR (Morskoy gidrofizicheskii institut AN UkrSSR).
155. North Ossetian State University (Severo-Osetinskiy gos universitet).
156. Mountain Agricultural Institute (Gorskiy sel'skokhozyaystvennyy institut).
157. All Union Scientific Research, Planning and Design Institute of Electric Equipment, Kharkov (VNI i proyektno-konstruktorskiy institut elektroapparatov).
158. Military Medical Academy, Leningrad (Voyenno-meditsinskaya akademiya).
159. Institute of Thermophysics, Siberian Branch, AN SSSR, Novosibirsk (Institut teplofiziki SOAN).
160. Scientific Research Institute of Hydrometeorological Instrument Manufacture (NII gidrometeorologicheskogo priborostroyeniya).
161. Moscow Institute of Radio Engineering, Electronics and Automation (Moskovskiy institut radiotekhnika, elektroniki i avtomatiki).
162. Moscow State Pedagogical Institute (Moskovskiy gos pedagogicheskii institut).
163. All Union Scientific Research Institute of Metrology im. Mendeleyev (VNII metrologii im Mendeleyeva).
164. Special Design Bureau for Analytical Instrument Manufacture, AN SSSR (Spetsial'noye konstruktorskoye byuro analiticheskogo priborostroyeniya AN SSSR).
165. Kazan' Command Engineering College (Kazanskoye vyssheye komandno-inzhenernoye uchilishche).
166. Riga Polytechnic Institute (Rizhskiy politekhnicheskii institut).
167. Institute of Petrochemical Synthesis im. Topchiyev, AN SSSR, Moscow (Institut neftekhimicheskogo sinteza im Topchiyeva AN SSSR).
168. Institute of Electric Welding im. Paton, AN UkrSSR, Kiev (Institut elektrosvarki im Patona AN UkrSSR).
169. Department of Telecommunications of the All Union State Planning, Surveying and Scientific Research Institute of Power Systems and Electric Power Networks (Otdel dal'nykh peredach Vsesoyuznogo gosudarstvennogo proyektno-izyskatel'skogo i NII energeticheskikh sistem i elektricheskikh setey, Energoset'proekt).
170. Moscow Machine Tool Institute (Moskovskiy stankoinstrumental'nyy institut).
171. Leningrad Institute for the Advanced Training of Physicians (Leningradskiy institut usovershenstvovaniya vrachey).
172. Main Astronomical Observatory, AN UkrSSR (Glavnaya astronomicheskaya observatoriya AN UkrSSR).
173. Ul'yanovsk Polytechnic Institut (Ul'yanovskiy politekhnicheskii institut).
174. Scientific Research Institute of Organic Intermediaes and Dyestuffs, Moscow (NII organicheskikh poluproduktov i krasiteley).
175. Arctic and Antarctic Scientific Research Institute, Leningrad (Arkticheskii i antarkticheskii NII).
176. Moscow Geological Prospecting Institut im. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut im Ordzhonikidze).
177. Riga Institute for Civil Aviation Engineers (Rizhskiy institut inzhenerov grazhdanskoj aviatsii).
178. Moscow Institute of Chemical Technology im. Mendeleyev (Moskovskiy khimiko-tekhnicheskii institut im Mendeleyeva).
179. Moscow Institute of Fine Chemical Technology im. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii im Lomonosova).
180. Institute of Heat and Mass Exchange, AN BSSR (Institut teplo- i massoobmena AN BSSR).
181. Institute of Nuclear Research, AN UkrSSR, Kiev (Institut yadernykh issledovaniy AN UkrSSR).

182. Kiev Communications College of Military Engineering (Kiyevskoye vyssheye voyennoye inzhenernoye uchilishche svyazi).
183. Physico-technical Institute, AN BSSR (Fiziko-tekhnicheskiy institut AN BSSR).
184. Institute of Geochemistry and Analytical Chemistry im. Vernadskiy, AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii im Vernadskogo AN SSSR).
185. Gor'kiy Polytechnic Institute (Gor'kovskiy politekhnicheskiy institut).
186. Kishinev Pedagogical Institute (Kishinevskiy pedagogicheskiy institut).
187. Institute of Epidemiology and Microbiology im. Gamaleya, AMN SSSR, Moscow (Institut epidemiologii i mikrobiologii im Gamalei AMN SSSR).
188. All Union Scientific Research Institute of Single Crystals, Khar'kov (VNII monokristallov).
189. Novocherkassk Polytechnic Institute (Novocherkasskiy politekhnicheskiy institut).
190. Central Scientific Research Institute of the Maritime Fleet (Tsentral'nyy NII morskogo flota).
191. Karaganda Polytechnic Institute (Karagandinskiy politekhnicheskiy institut).
192. Belorussian Technological Institute (Belorusskiy tekhnologicheskiy institut).
193. Institute of Theoretical and Applied Mechanics, Siberian Branch, AN SSSR, Novosibirsk (Institut teoreticheskoy i prikladnoy mekhaniki SOAN).
194. VIOGEM
195. Northwest Correspondence Polytechnic Institute (Severo-Zapadnyy zaочnyy politekhnicheskiy institut).
196. Institute of Organic Chemistry im. Zelinskiy, AN SSSR (Institut organicheskoy khimii im Zelinskogo AN SSSR).
197. Tomsk Polytechnic Institute (Tomskiy politekhnicheskiy institut).
198. Institute of Mineral Fuels, Moscow (Institut goryuchikh iskopayemykh).
199. Moscow Institute of Electronic Machinery (Moskovskiy institut elektronnoy mashinostroyeniya).
200. Khar'kov Aviation Institute (Khar'kovskiy aviatsionnyy institut).
201. Institute for Problems of Information Transmission, AN SSSR, Moscow (Institut problem peredachi informatsii AN SSSR).
202. Institute of Electronics, AN UzSSR, Tashkent (Institut elektroniki AN UzSSR).
203. Institute of General and Inorganic Chemistry, AN ArmSSR, Yerevan (Institut obshchey i neorganicheskoy khimii AN ArmSSR).
204. Institute of General Genetics, AN SSSR, Moscow (Institut obshchey genetiki AN SSSR).
205. Moscow X-ray Radiological Scientific Research Institute (Moskovskiy NI rentgeno-radiologicheskiy institut).
206. Institute of Geology and Geophysics, Siberian Branch, AN SSSR, Novosibirsk (Institut geologii i geofiziki SOAN).
207. Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya).
208. Tula Polytechnic Institute (Tul'skiy politekhnicheskiy institut).
209. Moscow Institute of Precision Mechanics and Computer Technology (Moskovskiy institut tochnoy mekhaniki i vychislitel'noy tekhniki).
210. Institute of Physics, Siberian Branch, AN SSSR (Institut fiziki SOAN).
211. Kalinin Polytechnic Institute (Kalininskiy politekhnicheskiy institut).
212. Kuban' State University (Kubanskiy gos universitet).
213. Leningrad Technological Institute (Leningradskiy tekhnologicheskiy institut).
214. Kazan' Pedagogical Institute (Kazanskiy pedagogicheskiy institut).
215. Physico-technical Institute, AN TadzhSSR (Fiziko-tekhnicheskiy institut AN TadzhSSR).
216. Kazan' Aviation Institute (Kazanskiy aviatsionnyy institut).
217. Poltava Civil Engineering Institute (Poltavskiy inzhenerno-stroitel'nyy institut).
218. Second Moscow State Medical Institute im. Pirogov (Vtoroy Moskovskiy meditsinskiy institut im Pirogova).

219. Belorussian Polytechnic Institute Minsk (Belorusskiy politekhnicheskiy institut).
220. Institute of Experimental Meteorology (Institut eksperimental'noy meteorologii).
221. All Union Scientific Research Institute of Hydraulic Engineering (VNI gidrotekhniki).
222. Institute of Surgery im. Vishnevskiy, AMN SSSR (Institut khirurgii im Vishnevskogo AMN SSSR).
223. Central Institute for the Advanced Training of Physicians (Tsentral'nyy institut usovershenstvovaniya vrachey).
224. Yerevan Polytechnic Institute (Yerevanskiy politekhnicheskiy institut).
225. Institute for Problems of Oncology, AN UkrSSR (Institut problem onkologii AN UkrSSR).
226. Leningrad Branch of the Mathematical Institute, AN SSSR (Leningradskoye otdeleniye Matematicheskogo instituta AN SSSR).
227. Tashkent State University (Tashkentskiy gos universitet).
228. Institute of Theoretical Physics, AN UkrSSR (Institut teoreticheskoy fiziki AN UkrSSR).
229. Moscow Aviation Technological Institute (Moskovskiy aviatsionnyy tekhnologicheskoy institut).
230. Novosibirsk Institute for Engineers of Geodesy, Aerial Surveying and Cartography (Novosibirskiy institut inzhenerov geodezii, aerofoto"yemki i kartografii).
231. Scientific Research Institute of Motion Pictures and Photography (NI kinofotoinstitut, NIKFI).
232. State Scientific Research Institute of Glass (Gosudarstvennyy NII stekla).
233. Ivanovo-Frankov Pedagogical Institute (Ivanovo-Frankovskiy pedagogicheskoy institut).
234. Scientific Research Institute of Civil Aviation (NII grazhdanskoy aviatsii).
235. Tashkent State Pedagogical Institute (Tashkentskiy gos pedagogicheskoy institut).
236. All Union Scientific Research Institute of Mining Geomechanics and Surveying (VNI gornoy geomekhaniki i marksheyderskogo dela).
237. Department of the Physics of Nondestructive Control, AN BSSR (Otdel fiziki nerazrushayushchego kontrolya AN BSSR).
238. Institute of High Pressure Physics, AN SSSR (Institut fiziki vysokikh davleniy AN SSSR).
239. All Union State Planning, Surveying and Scientific Research Institute of Power Systems and Electric Power Networks (Vsesoyuznyy gosudarstvennyy proyektno-izyskatel'skiy i NII energeticheskikh sistem i elektricheskikh setey, ENERGOSET'PROYEKT).
240. Odessa State University (Odesskiy gos universitet).
241. Sverdlovsk State Pedagogical Institute (Sverdlovskiy gos pedagogicheskoy institut).
242. Kazakh State University, Alma Ata (Kazakhskiy gos universitet).
243. Radio Engineering Institute, AN SSSR (Radiotekhnicheskiy institut AN SSSR).
244. Moscow Scientific Research Institute of Television (Moskovskiy NI televizionnyy institut).
245. Novosibirsk State Pedagogical Institute (Novosibirskiy gos pedagogicheskoy institut).
246. Main Astronomical Laboratory, AN SSSR (Glavnaya astronomicheskaya laboratoriya AN SSSR).
247. Scientific Research Institute of Electrophysical Equipment im. Yefremov, Leningrad (NII elektrofizicheskoy apparatury im Yefremova).
248. Institute of Mechanics at Moscow State University (Institut mekhaniki pri Moskovskom gos universitete).
249. Omsk Agricultural Institute (Omskiy sel'skokhozyaystvennyy institut).
250. Sverdlovsk Mining Institute (Sverdlovskiy gornyy institut).
251. Tomsk Institute of Automatic Control Systems and Radioelectronics (Tomskiy institut avtomatizirovannykh sistem upravleniya i radioelektroniki).
252. Leningrad Institute of Nuclear Physics, AN SSSR (Leningradskiy institut yadernoy fiziki AN SSSR).
253. Kirghiz State University (Kirgizskiy gos universitet).
254. Moscow Civil Engineering Institute (Moskovskiy inzhenerno-stroitel'skiy institut).
255. Tallinn Polytechnical Institute (Tallinskiy politekhnicheskiy institut).

256. Far Eastern State University, Vladivostok (Dal'nevostochnyy gos universitet).
257. Comprehensive Institute of Natural Sciences, AN UzSSR, Nukus (Kompleksnyy institut yestestvennykh nauk AN UzSSR).
258. Institut of Theoretical Astronomy, AN SSSR (Institut teoreticheskoy astronomii AN SSSR).
259. Institut of Physics and Mathematics, AN LitSSR (Institut fiziki i matematiki AN LitSSR).
260. Kazan' Institute of Chemical Technology im. Kirov (Kazanskiy khimiko-tekhnologicheskii institut im Kirova).
261. Rybinsk Evening Technological Institute (Rybinskiy vecherniy tekhnologicheskii institut).
262. Physicotechnical Institute, AN UzSSR (Fiziko-tekhnicheskii institut AN UzSSR).
263. Astrophysical Institute, AN KazSSR (Astrofizicheskii institut AN KazSSR).
264. Institute of Radiophysics and Electronics, AN ArmSSR (Institut radiofiziki i elektroniki AN ArmSSR).
265. Irkutsk Polytechnical Institute (Irkutskiy politekhnicheskii institut).
266. Leningrad Forestry-Technical Academy (Leningradskaya lesnotekhnicheskaya akademiya).
267. Laboratory of Electronics, AN BSSR, Minsk (Laboratoriya elektroniki AN BSSR).
268. Scientific Research Institute of Applied Mathematics and Mechanics at Tomsk State University (NII prikladnoy matematiki i mekhaniki pri Tomskom gos universitete).
269. Dnepropetrovsk Metallurgical Institute, Zaporozh'ye Branch (Dnepropetrovskiy metallurgicheskii institut, Zaporozhskiy filial).
270. Special Astrophysical Observatory, AN SSSR, Leningrad Branch (Spetsial'naya astrofizicheskaya observatoriya AN SSSR, Leningradskiy filial).
271. Ul'yanovsk State Pedagogical Institute im Ul'yanov (Ul'yanovskiy gos pedagogicheskii institut im Ul'yanova).
272. Military Engineering Radio Engineering Academy of Air Defense im Govorov (Voyenno-inzhenernaya radiotekhnicheskaya akademiya protivovozdushnoy oborony im Govorova).
273. Military Command Academy of Air Defense (Voyennaya komandnaya akademiya protivovozdushnoy oborony).
274. Donetsk Physico-technical Institute, AN UkrSSR (Donetskiy fiziko-tekhnicheskii institut AN UkrSSR).
275. Moscow Electrotechnical Institute of Communications (Moskovskiy elektrotekhnicheskii institut svyazi).
276. Institute of Physics of the Earth im. Shmidt, AN SSSR (Institut fiziki Zemli im. Shmidta AN SSSR).
277. Leningrad Institute of Aviation Instruments (Leningradskiy institut aviatsionnogo priborostroyeniya).
278. Samarkand State University (Samarkandskiy gos universitet).
279. Moscow Institute of the Petrochemical and Gas Industry im. Gubkin (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im Gubkina).
280. Moscow Scientific Research Institute of Eye Diseases im. Gel'mgol'ts (Moskovskiy NII glaznykh bolezney im. Gel'mgol'tsa).
281. Institute for Improving the Qualifications of Supervisory Workers and Specialists (Institut povysheniya kvalifikatsii rukovodyashchikh rabotnikov i spetsialistov).
282. Scientific Research Institute of Physics, Odessa (NII fiziki, Odessa).
283. Institute of Physics of Metals, AN UkrSSR, Kiev (Institut metallofiziki AN UkrSSR).
284. Dnepropetrovsk Metallurgical Institute (Dnepropetrovskiy metallurgicheskii institut).
285. Institute of Problems of Control (Institut problem upravleniya).
286. Institute of Biological Physics, ANSSSR, Pushchino (Institut biologicheskoy fiziki AN SSSR).
287. Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR).
288. Moscow Electrovacuum Instruments Plant (Moskovskiy zavod elektrovakuumnykh priborov).
289. Central Scientific Research Institute of Geodesy, Aerial Surveying and Cartography (Tsentral'nyy NII geodezii, aeros'yemki i kartografii).
290. All Union Scientific Research Institute of Medical Instrument Manufacture (VNI meditsinskogo priborostroyeniya).

291. Rostov-on-Don Institute of Railroad Transportation Engineers (Rostovskiy-na-Donu inzhenerov zheleznodorozhnogo transporta).
292. Naval Academy, Leningrad (Voyenno-morskaya akademiya).
293. Moscow Institute of Transportation Engineers (Moskovskiy institut inzhenerov transporta).
294. Institute of Chemistry, Bashkir Branch, AN SSSR (Institut khimii Bashkirskogo filiala AN SSSR).
295. Institute of Chemical Kinetics and Combustion, Siberian Branch, AN SSSR, Novosibirsk (Institut khimicheskoy kinetiki i goreniya SOAN).
296. Tbilis Branch of the All Union Correspondence Electrotechnical Institute of Communications (Tbiliskiy filial Vsesoyuznogo zaobnogo elektrotekhnicheskogo instituta svyazi).
297. Institute of Chemistry, AN SSSR, Gor'kiy (Institut khimii AN SSSR).
298. Institute of Electrodynamics, AN UkrSSR (Institut elektrodinamiki AN UkrSSR).
299. Institute of Electronics, AN BSSR (Institut elektroniki AN BSSR).
300. Institute of Cybernetics, AN UzSSR (Institut kibernetiki AN UzSSR).
301. All Union Scientific Research Institute of Luminophors and High Purity substances (VNI lyuminoforov i osobo chistykh veshchestv).
302. State Scientific Research Institute of Radio (Gosudarstvennyy NII radio).
303. L'vov Branch of Mathematical Physics of the Institute of Mathematics, AN UkrSSR (L'vovskiy filial matematicheskoy fiziki Instituta matematiki AN UkrSSR).
304. Institute of Organic Chemistry, AN UkrSSR, Kiev (Institut organicheskoy khimii AN UkrSSR).
305. Central Construction Bureau of Motion Picture Equipment (Tsentral'noye konstruktorskoye byuro kinoapparatury).
306. State Oceanographic Institute (Gosudarstvennyy okeanograficheskiy institut).
307. Institute of Thermophysics and Electrophysics, AN EstSSR (Institut termofiziki i elektrofiziki AN EstSSR).
308. Moscow Institute of Railroad Transport Engineers (Moskovskiy institut inzhenerov zheleznodorozhnogo transporta).
309. Pervomayskugol' combine (Kombinat "Pervomayskugol").
310. Kadiyevka Branch of the Kmmunarsk Mining-Metallurgical Institute (Kadiyevskiy filial Kommunarskogo gorno-metallurgicheskogo instituta).
311. All Union Scientific Research Institute of Mineral Resources, Moscow (VNI mineral'nogo syr'ya).
312. Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii).
313. Scientific Research Institute of Applied Physics at Irkutsk State University (NI prikladnoy fiziki pri Irkutskom gos universitete).
314. Moscow Oncological Scientific Research Institute im Gertsen (Moskovskiy NI onkologicheskoy institut im Gertsena).
315. Tbilis Branch of the All-Union Scientific Research Institute of Metrology im Mendeleyev (Tbiliskiy filial VNI metrologii im Mendeleyeva).
316. Dagestan Polytechnic Institute, Makhachkala (Dagestanskiy politekhnicheskoy institut).
317. Saratov Polytechnic Institute (Saratovskiy politekhnicheskoy institut).
318. Scientific Research Institute of Direct Current (NI postoyannogo toka).
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